Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. – 69. (cancelled)

70. (currently amended) A method for cleaning ~~a previously substantially uncleaned~~ an object comprising:

a) preparing a liquid cleaning composition comprising 65%-99% by weight water and at least one organic compound having lipophilic and hydrophilic groups, wherein the concentration of the at least one organic compound is ~~greater than the solubility of the at least one organic compound in water, and wherein the at least one organic compound~~ selected such that the liquid cleaning composition has the following properties ~~of~~:

i) all components of the liquid cleaning composition are fully dissolved ~~being completely soluble in water at a different concentration and~~ at a temperature that is ~~different from~~ lower than a cleaning temperature, ~~so as to form~~ and the liquid cleaning composition is an optically clear, one-phase liquid solution ~~liquid~~ at the ~~different concentration and~~ lower temperature, and

ii) the liquid cleaning composition forms a two-phase solution at the cleaning temperature, which two-phase solution forms an optically cloudy emulsion upon application of at least one of agitation and ultrasound at the cleaning temperature,

~~highly efficiently dissolving and removing hydrophobic contaminants from the previously substantially uncleaned object,~~

b) adjusting the temperature of the liquid cleaning composition to the cleaning temperature, at which cleaning temperature the liquid cleaning composition is a two-phase solution, and

c) contacting the ~~previously substantially uncleaned~~ object with the liquid cleaning composition at the cleaning temperature while applying at least one of agitation and ultrasound to the liquid cleaning composition, wherein ~~maintaining~~ the liquid cleaning composition is maintained in ~~a~~ the state of ~~an~~ being the optically cloudy emulsion, in which a plurality of organic-rich droplets are suspended in a continuous aqueous phase, for at least a portion of the time that the liquid cleaning composition contacts the object ~~by performing at least one of (i) agitating the liquid cleaning composition and (ii) applying ultrasound to the liquid cleaning composition~~, wherein both the organic rich droplets and the continuous aqueous phase contact the object and both hydrophilic and hydrophobic contaminants are highly effectively removed from the object by the liquid cleaning composition.

71. (previously presented) A method as in claim 70, wherein the at least one organic compound has the following structure:

$$R_1 - (X)_n - R_3$$

wherein R_1 and R_3 are each independently selected from H; methyl; ethyl; linear or branched, saturated or unsaturated, C_3 to C_{18} alkyl groups, in which one or

more nonadjacent -CH_2- may be replaced by -O-; amino, in which one or more hydrogens may be replaced by C_1 to C_8 alkyl groups, or a saturated or unsaturated cyclic C_3 to C_6 group, in which one or more nonadjacent -CH_2- groups may be replaced by -O-; hydroxy; and linear or branched, saturated or unsaturated, C_1 to C_8 alkoxy;

X is selected from the group consisting of -O-; -C(=O)-; -C(=O)-O-; -NH-, in which the hydrogen may be replaced by a linear or branched C_1 to C_8 alkyl group; -N(-OH)-; linear or branched C_1 to C_8 alkylene, in which one or more nonadjacent -CH_2- groups may be replaced by -O-; and

n is selected from a positive integer.

72. (previously presented) A method as in claim 71, wherein R_1 and R_3 are independently selected from hydrogen, methyl, ethyl, n-propyl, i-propyl, n-butyl, sec-butyl, i-butyl, tert-butyl, n-pentyl, n-hexyl, n-octyl, furfuryl-2, tetrahdrofurfuryl-2, hydroxy, methoxy, ethoxy and propoxy.

73. (previously presented) A method as in claim 72, wherein X is selected from -O-; -C(=O)-; -C(=O)-O-; -NH-, in which the hydrogen may be replaced by a C_1 to C_8 alkyl group; -N(-OH)-; ethyleneoxy and propyleneoxy.

74. (previously presented) A method as in claim 70, wherein the cleaning temperature is between about 40-60°C.

75. (previously presented) A method as in claim 70, wherein the liquid cleaning composition is an azeotrope.

76. (canceled)

77. (previously presented) A method as in claim 70, wherein the water comprises at least 75% by weight of the liquid cleaning composition.

78. (previously presented) A method as in claim 70, wherein the water comprises at least 85% by weight of the liquid cleaning composition.

79. (previously presented) A method as in claim 70, wherein the liquid cleaning composition further comprises a corrosion inhibitor.

80. (previously presented) A method as in claim 70, wherein the at least one organic compound comprises a glycol ether.

81. (previously presented) A method as in claim 70, wherein the at least one organic compound comprises dipropyleneglycol mono-n-propyl ether.

82. (previously presented) A method as in claim 70, wherein the liquid cleaning composition further comprises at least one compound selected from the group consisting of an amine compound, an N-heterocyclic compound and an organic acid.

83. (currently amended) A method for cleaning ~~a previously substantially uncleaned~~ an object having hydrophobic and hydrophilic contaminants adhered thereto, the method comprising:

a) contacting the ~~previously substantially uncleaned~~ object with a liquid cleaning composition comprising 65%-99% by weight water and at least one organic compound having lipophilic and hydrophilic groups, wherein the concentration of the at least one organic compound is greater than the solubility of the at least one organic compound in water at a cleaning temperature, such that the liquid cleaning composition is a two-phase solution at ~~a~~ the cleaning temperature, and wherein the liquid cleaning composition has the properties of:

i) ~~the at least one organic compound being completely soluble in water at a different concentration and~~ being a one-phase liquid solution at a temperature that is ~~different from~~ lower than the cleaning temperature, ~~so as to form an optically clear, liquid at the different concentration and temperature,~~ and

ii) highly efficiently dissolving and removing both hydrophobic and hydrophilic contaminants from the object, and

b) ~~maintaining~~ applying at least one of agitation and ultrasound to the liquid cleaning composition at the cleaning temperature for at least a portion of the time that the liquid cleaning composition contacts the object, whereby the liquid cleaning composition is maintained in ~~the~~ a state of an optically cloudy emulsion, in which a plurality of organic-rich droplets are suspended in a continuous aqueous phase, ~~for at least a portion of the time that the liquid cleaning composition contacts the object,~~

wherein both the organic rich droplets and the continuous aqueous phase contact the object and both hydrophilic and hydrophobic contaminants are highly effectively removed from the object by the liquid cleaning composition.

84. (previously presented) A method as in claim 83, wherein the at least one organic compound has the following structure:

$$R_1 - (X)_n - R_3$$

wherein R_1 and R_3 are each independently selected from H; methyl; ethyl; linear or branched, saturated or unsaturated, C_3 to C_{18} alkyl groups, in which one or more nonadjacent $-CH_2-$ may be replaced by -O-; amino, in which one or more hydrogens may be replaced by C_1 to C_8 alkyl groups, or a saturated or unsaturated cyclic C_3 to C_6 group, in which one or more nonadjacent $-CH_2-$ groups may be replaced by -O-; hydroxy; and linear or branched, saturated or unsaturated, C_1 to C_8 alkoxy;

X is selected from the group consisting of -O-; -C(=O)-; -C(=O)-O-; -NH-, in which the hydrogen may be replaced by a linear or branched C_1 to C_8 alkyl group; -N(-OH)-; linear or branched C_1 to C_8 alkylene, in which one or more nonadjacent $-CH_2-$ groups may be replaced by -O-; and

n is selected from a positive integer.

85. (previously presented) A method as in claim 84, wherein R_1 and R_3 are independently selected from hydrogen, methyl, ethyl, n-propyl, i-propyl, n-butyl, sec-butyl, i-butyl, tert-butyl, n-pentyl, n-hexyl, n-octyl, furfuryl-2, tetrahdrofurfuryl-2, hydroxy, methoxy, ethoxy and propoxy.

86. (previously presented) A method as in claim 85, wherein X is selected from -O-; -C(=O)-; -C(=O)-O-; -NH-, in which the hydrogen may be replaced by a C_1 to C_8 alkyl group; -N(-OH)-; ethyleneoxy and propyleneoxy.

87. (previously presented) A method as in claim 83, wherein the cleaning temperature is between about 40-60°C.

88. (previously presented) A method as in claim 83, wherein the liquid cleaning composition is maintained in the state of a plurality of organic-rich droplets suspended in a continuous aqueous phase by at least one of (i) agitating the liquid cleaning composition and (ii) applying ultrasound to the liquid cleaning composition.

89. (previously presented) A method as in claim 83, wherein the liquid cleaning composition is an azeotrope.

90. (canceled)

91. (previously presented) A method as in claim 83, wherein the water comprises at least 75% by weight of the liquid cleaning composition.

92. (previously presented) A method as in claim 83, wherein the water comprises at least 85% by weight of the liquid cleaning composition.

93. (previously presented) A method as in claim 83, wherein the liquid cleaning composition further comprises a corrosion inhibitor.

94. (previously presented) A method as in claim 83, wherein the at least one organic compound comprises a glycol ether.

95. (previously presented) A method as in claim 83, wherein the at least one organic compound comprises dipropyleneglycol mono-n-propyl ether.

96. (previously presented) A method as in claim 83, wherein the liquid cleaning composition further comprises at least one additional compound selected from the group consisting of an amine compound, an N-heterocyclic compound and an organic acid.

97. (currently amended) A method for cleaning an object comprising:

contacting the object with a liquid cleaning composition comprising 65%-99% by weight water and at least one organic compound having lipophilic and hydrophilic groups, the liquid cleaning composition being at a cleaning temperature when contacting the object, wherein the concentration of the at least one organic compound is greater than the solubility of the at least one organic compound in

water at the cleaning temperature, such that the liquid cleaning composition is a two-phase solution at ~~a~~ the cleaning temperature, and wherein the liquid cleaning composition also has the property of forming a one-phase liquid at a temperature that is different from the cleaning temperature, and

maintaining the liquid cleaning composition in the state of an emulsion, in which a plurality of organic-rich droplets are suspended in a continuous aqueous phase, for at least a portion of the time that the liquid cleaning composition contacts the object at the cleaning temperature, wherein both the organic rich droplets and the continuous aqueous phase contact the object, whereby ~~and~~ both hydrophilic and hydrophobic contaminants are highly effectively removed from the object by the liquid cleaning composition.

98. (previously presented) A method as in claim 97, wherein the liquid cleaning composition is maintained in the state of a plurality of organic-rich droplets suspended in a continuous aqueous phase by at least one of (i) agitating the liquid cleaning composition and (ii) applying ultrasound to the liquid cleaning composition.

99. (previously presented) A method as in claim 98, wherein the at least one organic compound has the structure:

$$R_1 - (X)_n - R_3$$

wherein R_1 and R_3 are each independently selected from H; methyl; ethyl; linear or branched, saturated or unsaturated, C_3 to C_{18} alkyl groups, in which one or

more nonadjacent $-CH_2-$ may be replaced by -O-; amino, in which one or more hydrogens may be replaced by C_1 to C_8 alkyl groups, or a saturated or unsaturated cyclic C_3 to C_6 group, in which one or more nonadjacent $-CH_2-$ groups may be replaced by -O-; hydroxy; and linear or branched, saturated or unsaturated, C_1 to C_8 alkoxy;

X is selected from the group consisting of -O-; -C(=O)-; -C(=O)-O-; -NH-, in which the hydrogen may be replaced by a linear or branched C_1 to C_8 alkyl group; -N(-OH)-; linear or branched C_1 to C_8 alkylene, in which one or more nonadjacent $-CH_2-$ groups may be replaced by -O-; and

n is selected from a positive integer.

100. (previously presented) A method as in claim 99, wherein R_1 and R_3 are independently selected from hydrogen, methyl, ethyl, n-propyl, i-propyl, n-butyl, sec-butyl, i-butyl, tert-butyl, n-pentyl, n-hexyl, n-octyl, furfuryl-2, tetrahdrofurfuryl-2, hydroxy, methoxy, ethoxy and propoxy.

101. (previously presented) A method as in claim 100, wherein X is selected from -O-; -C(=O)-; -C(=O)-O-; -NH-, in which the hydrogen may be replaced by a C_1 to C_8 alkyl group; -N(-OH)-; ethyleneoxy and propyleneoxy.

102. (previously presented) A method as in claim 101, wherein water comprises at least 75% by weight of the liquid cleaning composition.

103. (previously presented) A method as in claim 102, wherein water comprises at least 85% by weight of the liquid cleaning composition.

104. (previously presented) A method as in claim 101, wherein the liquid cleaning composition further comprises a corrosion inhibitor.

105. (previously presented) A method as in claim 104, wherein the at least one organic compound comprises a glycol ether.

106. (previously presented) A method as in claim 105, wherein the liquid cleaning composition further comprises at least one additional compound selected from the group consisting of an amine compound, an N-heterocyclic compound and an organic acid.

107. (previously presented) A method as in claim 106, wherein the at least one organic compound comprises dipropyleneglycol mono-n-propyl ether.

108. (previously presented) A method as in claim 98, wherein the at least one organic compound is selected from the group consisting of propyleneglycol ether; dipropyleneglycolmonoethylether; tripropyleneglycolmonomethylether; 3-methoxy-3-methylbutanol; furfuryl alcohol; tetrahydrofurfurylalcohol; l-aminobutonol-2; monoisopropanolamine; 2-amino-2-methylpropanol-l; 2-amino-a-methylpropanediol-

l,3; 3-(aminomethyl-)pyridine; ethanolamine; furfurylamine; methyl lactate; isopropyl lactate; aminoacetaldehydedimethylacetal; 4-aminomorpholine; 1-methylimidazole; 1,2-dimethylimidazole; 1-vinylimidazole; 1,4-diazabicyclo[2.2.2]octane (DABCO); 1,5-diazabicycle[4.3.0]non-5-ene; and 1,8-diazabicyclo[5.4.0]undec-7-ene.

109. (previously presented) A method as in claim 108, wherein the liquid cleaning composition further comprises at least one additional compound selected from the group consisting of an amine compound, an N-heterocyclic compound and an organic acid.

110. (previously presented) A method as in claim 109, wherein the at least one organic compound comprises between 3 and 25% by weight of the liquid cleaning composition.

111. (previously presented) A method as in claim 109, wherein the at least one organic compound comprises between 4 and 15% by weight of the liquid cleaning composition.

112. (previously presented) A method as in claim 98, wherein the at least one organic compound comprises between 3 and 25% by weight of the liquid cleaning composition.

113. (new) A method as in claim 97, wherein the liquid cleaning composition is free of surfactants.

114. (new) A method as in claim 97, wherein the liquid cleaning composition consists essentially of water and a glycol ether.

115. (new) A method as in claim 97, wherein all components of the liquid cleaning composition are fully dissolved in each other at about 20-25°C.

116. (new) A method as in claim 97, further comprising evaporating the liquid cleaning composition to remove residues therefrom.

117. (new) A method as in claim 116, further comprising condensing vapor generated by evaporating the liquid cleaning composition and reutilizing the condensed liquid cleaning composition to clean objects.

118. (new) A method as in claim 97, wherein the two-phase solution of the liquid cleaning composition comprises an organic-rich phase and an aqueous phase and wherein the organic-rich phase is a fully dissolved phase in the absence of the application of agitation or ultrasound.

119. (new) A method for cleaning an object comprising:

contacting the object with a liquid cleaning composition comprising 65%-99% by weight water and at least one organic compound having lipophilic and hydrophilic

groups, the liquid cleaning composition being at a cleaning temperature when contacting the object, wherein the concentration of the at least one organic compound is greater than the solubility of the at least one organic compound in water at the cleaning temperature, such that the liquid cleaning composition is a two-phase liquid at the cleaning temperature, which two-phase liquid comprises an organic-rich phase and an aqueous phase, the organic-rich phase being a fully dissolved phase in the absence of agitation or ultrasound, and

maintaining the liquid cleaning composition in the state of an emulsion, in which a plurality of organic-rich droplets are suspended in a continuous aqueous phase, for at least a portion of the time that the liquid cleaning composition contacts the object at the cleaning temperature, wherein both the organic rich droplets and the continuous aqueous phase contact the object, whereby both hydrophilic and hydrophobic contaminants are removed from the object by the liquid cleaning composition.

120. (new) A method as in claim 119, wherein the at least one organic compound comprises a glycol ether.

121. (new) A method as in claim 120, wherein the liquid cleaning composition also has the property of forming a one-phase liquid at a temperature that is lower than the cleaning temperature.

122. (new) A method as in claim 121, wherein the one-phase liquid is an optically clear, fully dissolved solution at the lower temperature.

123. (new) A method as in claim 122, wherein all components of the one-phase liquid cleaning composition are fully dissolved in each other at about 20-25°C.

124. (new) A method as in claim 123, wherein the liquid cleaning composition is free of surfactants.

125. (new) A method as in claim 124, wherein the liquid cleaning composition consists essentially of water and a glycol ether.